Importance of Oil and Gas Investment in Alberta

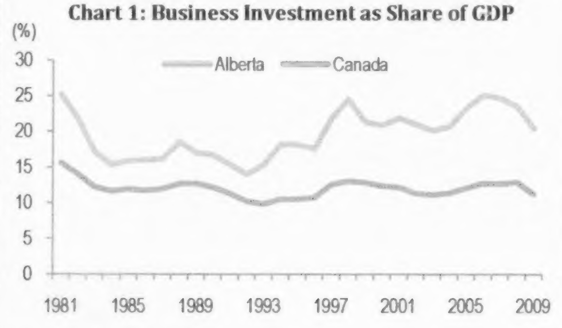
Highlights

- Business investment is volatile and a key driver of economic growth in Alberta.
- The capital-intensive oil and gas extraction industry has been the main source of investment in Alberta due to rising prices and the availability of these resources in Alberta.
- Business investment has shifted from predominantly construction to include more machinery and equipment, which mirrors the transition of investment from conventional oil and gas to oil sands – a non-conventional oil resource.

Business investment is important to Alberta …

Business investment, defined as investment in non-residential construction and machinery and equipment by the private sector, accounted for more than 70% of total investment in Alberta between 1981 and 2009. Rounding out the investment picture, residential construction and public sector contributed 17% and 11% respectively to total investment in the province.

Chart 1: Business Investment as Share of GDP



Source: Statistics Canada

Alberta's business investment as a share[1] of Gross Domestic Product (GDP) has always been higher than the Canadian average and in comparison to other provinces, Alberta had the largest investment share of GDP between 1981 and 2009. Due to the capital-intensive nature of resource production, resource abundant provinces tend to have higher business investment as share of GDP.

As illustrated in chart 2, the resource rich provinces of Alberta, Saskatchewan and Newfoundland/Labrador are the provinces with the highest investment to GDP ratio.

Chart 2: Business Investment as Share of GDP by Province

Source: Statistics Canada (1981 to 2009 average)

Fluctuations in business investment significantly affect economic growth in Alberta. As shown in chart 3, increases in business investment place upward pressure on GDP while decreases in business investment apply downward pressure.

In the 1980s, business investment declined, which slowed Alberta's economic growth. Over this period, economic growth was driven by exports and personal consumption, which compensated for the negative effect of declining business investment. After 1989, real business investment grew on average at a rate higher than real GDP growth. Business investment, together

[1] All share calculations are in nominal terms.

with export demand and personal consumption drove economic growth in Alberta over the following two decades.

Chart 3: Real GDP and Real Business Investment Growth

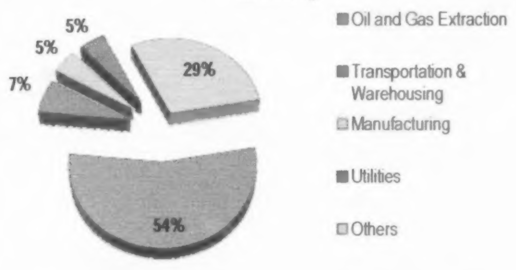
Source: Statistics Canada

Oil and gas drives business investment in Alberta…

The oil and gas industry has been the main source of business investment in Alberta due to the capital-intensive nature of the industry. As chart 4 depicts, the oil and gas extraction industry contributed more than 50% on average to total business investment in Alberta, excluding housing, from 2000 to 2010. Consequently, increases and decreases in oil and gas investment dominate the total investment picture in the province.

Due to the volatility of investment in the oil and gas industry, Alberta business investment is very volatile.

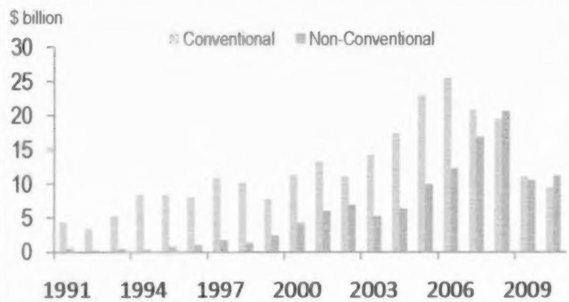
Chart 4: Alberta Business Investment by Industry



Source: Statistics Canada (2000 to 2010 average)

Investment in the oil and gas extraction industry has grown over the years yet its composition continues to change. The investment growth from 1991 to 1996 was mainly due to increases in conventional oil and gas investment. During this time the conventional sector played a larger role in total investment than non-conventional which can be seen by the higher number of conventional oil and gas wells. Production by conventional extraction also dwarfed non-conventional methods as a share of total production during the early 1990's.

Chart 5: Alberta Oil and Gas Extraction Investment



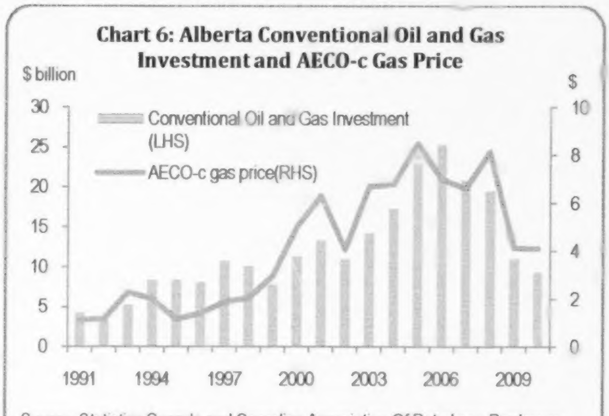
Source: Statistics Canada

Oil and gas investment continued its growth between 1997 and 2006. However, as illustrated in chart 5, the nature of the investment growth over the period saw the emergence of non-conventional investment along with the resurgence of conventional investment. In 2008, non-conventional investment eclipsed conventional investment for the first time in Alberta.

Conventional oil and gas peaks …

The pipeline development in 2000 to transport gas from Alberta to the US provided access to market for Alberta natural gas. The new market access resulted in higher price for Alberta producers, which stimulated investment and production of natural gas in the province. While conventional oil and gas investment peaked in 2006. The decline in conventional oil and gas investment after 2006 was partly due to fall in natural gas price, the emergence of shale gas reserve and the depletion of conventional oil reserves, making non-

conventional oil production a more important source of business investment in the province.

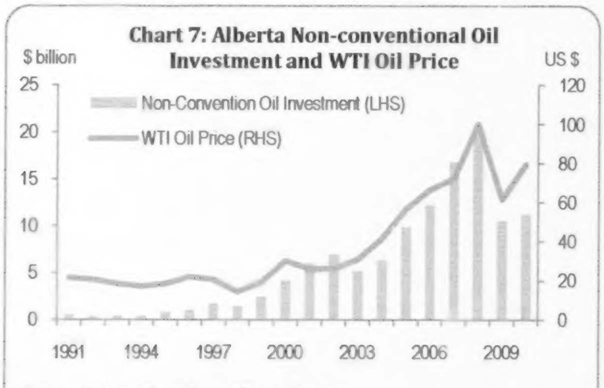


Source: Statistics Canada and Canadian Association Of Petroleum Producers

Non-conventional oil gains traction ...

Non-conventional oil became a more profitable energy investment option as a result of the introduction of the 1997 generic oil sands royalty regime which established industry-wide royalty cost certainty for oil sands producers.

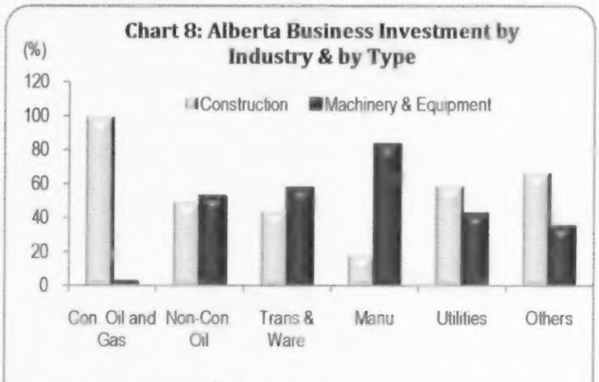
The revenue-less-cost framework took into account the capital-intensive nature of oil sands development. The introduction of the generic royalty regime coupled with the increase in oil price from 1999 to 2008 allowed investment to grow at a higher rate than in the early 1990s.



Source: Statistics Canada and Alberta Energy

Machinery and equipment investment becomes more important to Alberta ...

Non-conventional oil investment requires more machinery and equipment than conventional oil and gas. Chart 8 shows that on average, in the past decade, the non-conventional oil industry was among the industries where the share of investment in machinery and equipment is more than non-residential construction, which includes building and structures. In real terms, investment in machinery and equipment grew at a higher rate than investment in non-residential construction in the late 1990s and 2000s such that machinery and equipment contributed more to business investment growth over the period than non-residential construction. This is not surprising given the increase in non-conventional oil investment.

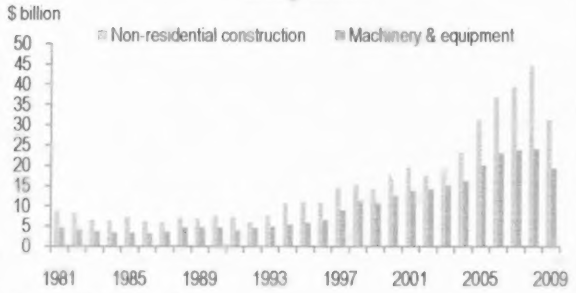


Source: Statistics Canada (2000 - 2010 Average)

Despite the growth in real machinery and equipment investment in late 1990s and 2000s, there was little change in its share of total business investment in the province. As shown in chart 9, in nominal terms, investment in non-residential construction made up a significant amount of total business investment over the period. Construction costs increased tremendously in Alberta from 2004 to 2007 due to labour shortages as housing, conventional and non-conventional oil and gas competed for limited supply of labour and raw materials.

Therefore, in nominal terms, the province recorded high growth in non-residential construction investment, but in real terms the growth was modest. The costs of machinery and equipment decreased 3% over 2003 to 2008 mainly due to a more favourable Canada-US exchange rate, as large amounts of machinery and equipment are imported. The decrease in the cost of acquiring machinery and equipment implies that while the quantity acquired by the firms increased, the total amount spent by the firm did not.

Chart 9: Alberta Business Investment Components



Source: Statistics Canada

Going forward, as investment in oil and gas industry is primarily in non-conventional oil, machinery and equipment will likely contribute more to real business investment growth in the province than non-residential construction.

Prices drive oil and gas investment ...

The global recession and the decrease in commodity prices in 2009 led to a fall in total oil and gas investment. This resulted in a decrease in both conventional and non-conventional investment. Preliminary estimates by Statistics Canada show that despite the 61.3% increase in drilling activity witnessed in 2010, there was a further decrease in investment in the oil and gas extraction industry. This decrease was mainly due to a fall in conventional oil and gas investment as non-conventional oil investment recorded 6% growth. The survey of public and private investment intentions shows that in nominal terms, investment in the oil and gas sector is expected to advance 18% in 2011 with the non-conventional investment posting a growth rate of 28% and conventional investment growing at 6%. Going forward, non-conventional oil is expected to be the main source of investment in the industry and thus a key driver of business investment in the province. However, conventional crude oil reserves in Alberta increased by 3.7% in 2010[2], due to growth from enhanced oil recovery (EOR) and new drilling techniques. These technological advancements fuel a new renaissance in conventional oil recovery through unconventional methods. Further volatility in business investment is thus likely since this industry makes up such a large percentage of total business investment subject to changes in commodity prices.

Conclusion

Alberta business investment is concentrated in oil and gas. Conventional oil and gas investment drove investment in the early 1990s until declining conventional reserves, regulatory changes and a favourable price environment stimulated investment in non-conventional oil techniques in early 2000s. A global recession in 2009 impacted oil and gas investment and saw large declines in both conventional and non-conventional investment. The emergence of non-conventional investment marks a shift from non-residential construction to machinery and equipment. Alberta's investment climate is expected to remain volatile since total business investment relies heavily on oil and gas.

[2] ERCB Alberta's Energy Reserves 2010 and Supply/Demand Outlook